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Senior Honors Project: Nutrition Education for the Geriatric Population

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Senior Honors Project: Nutrition Education for the Geriatric Population

Rachel Merkle

Fall 2014

Abstract

Background: Wellness Wednesday is a grant program the University of Akron School of Nutrition and Dietetics participates in during the school year. The Wellness Wednesday program focuses on older adult education within the AMHA housing community. Each month, students from the University of Akron rotate through three locations teaching a lesson to residents within each facility. Departments involved include psychology, exercise science and nutrition and dietetics.

Purpose: The purpose of this project was to define goals and objectives for nutrition education for the Wellness Wednesday grant program, determine the residents needs for nutrition education and determine food accessibility of the residents.

Methodology: 40 residents were assessed using a health risk assessment questionnaire during a Wellness Wednesday event. The nutrition component included: height, weight and dietary intake using a food frequency questionnaire. Residents were asked about their yearly income, and ability to go to the grocery store to buy foods. Health risk was determined by the presence of nutrition related medical conditions.

Findings: All participants reported a chronic health condition that has the potential to affect nutrition status. Greater than 50% of residents reported having an income less than 10,000 dollars per year. Based on findings, the future goals of nutrition education are to help residents understand basic nutrition concepts, nutrition implications of their chronic health problems, and help residents gain access to healthy foods.

Introduction

In order to effectively teach residents who participate in Wellness Wednesday, it is important to understand a few key concepts. The average age of the residents is 62, more than 50% of residents have an income less than \$10,000 per year and have probable difficulties getting and maintaining access to nutritious food. First it is important to learn about how to teach this population. Second, it is important to discover and teach relevant nutrition topics at each session. Finally, it is important to know about each site that will be participating in Wellness Wednesday. Each site is located in different places around Akron and all of their residents are unique. It is important to know if the residents have access to a local grocery store. In addition, the results from the health risk assessment (HRA) help to further understand the residents and their individual needs. The HRA also helps to identify unique needs at each of the three sites. By knowing difference, lessons can be tailored to each site if needed during a certain month.

Overview

Geriatric Education

In education there are four processes of learning; differentiation, dissonance, deconstruction and reconstruction.¹ In order to effectively learn, all four of these processes may need to be used, and the individual needs time to process. For example, an older adult diagnosed with diabetes may go through all of these learning steps to understand the disease, diet modifications and/or lifestyle changes that may be needed.¹ Older adults may not go through these steps as quickly as a young child in school, but it doesn't mean that they do not want to learn.¹ In fact, research has shown that older adult enjoy learning.² Through learning, older adults may gain socioeconomic, psychological, and sociopolitical resources.² As an educator, it is

important to understand older adults and how they learn to more effectively teach them about nutrition.

In older adults, the ability to problem solve and learn is associated with longevity, and the reason most do not want to learn is a lack of interest or time.¹ It was found that the reason many older adults do not use or want to learn technology due to a lack of interest.¹ They do not see the benefits technology has for them, so they do not take the time to learn. When older adult were educated on the benefits of learning technology such as being able to research doctors online, communicate via email or connect with children/grandchildren via Facebook they were much more willing to learn, and became interested in the subject.¹ Older adults, given adequate time, were found (in this situation) to be able to achieve equivalent learning outcomes as younger learners.¹

Unlike younger learners, older adults like to learn in different ways. Instead of formal learning in a classroom, workshop, etc., older adults would prefer to learn through discussion, reading, conversation, and TV.^{1,3} Older adults are also willing to look up resources given to them after a lesson to learn more about the subject.¹

When planning lessons for Wellness Wednesday, some practical ways to apply knowledge for seniors is by presenting the material in multiple ways to repeat the information and lead discussion on the topic of the month instead of giving a short lecture. In addition, resources could be given to the residents so they can further research the topic, such as a TV special or show, attach an article for them to read after Wellness Wednesday is over, give links to a website, or other resources so participants have the option to continue learning. By doing this, you are facilitating learning how they learn best and are giving them the option to learn more

about the subject outside of the program which may make them more likely to implement changes suggested.

Connecting with the Audience

To become credible with your audience it is important to build rapport. One way of doing this is to connect with the residents at each of the sites. While you may not be able to sit with the residents each month because you may be preparing the snack during other presentations, it's important to show you are interested in them and genuinely enjoy participating in Wellness Wednesday. Instead of sitting at a table separate from the residents, take a seat among them and get to know the residents. One study showed that when students take the time to connect and reminisce with elders, both parties understand the other generation more, and find there are things they can learn from one another.³ By doing this, you may establish rapport with the residents and you may also learn about their needs or problems which may include access to food.

Key Nutrition Education: What seniors need to know

In order to relay relevant information during Wellness Wednesday it is important to be aware of the general health awareness of the population who attends. One way to do this is to use results from the health risk assessment conducted in Fall 2014. In addition, research has been done to reveal knowledge awareness and deficits of the elder population.

In a study of 384 people, most of which who were 60-64 years old, it was found that 68.9% of respondents had poor knowledge of a balanced diet and 19% had no knowledge about a balanced diet; only 15.1% of respondents had partial or perfect knowledge about a balanced diet.

⁴ In the study measuring health awareness, it was found that 54.8% of respondents had knowledge about preventing osteoporosis, 43.5% had knowledge about iron rich foods, 48.2% had knowledge about food beneficial for heart health, 68.7% had knowledge about diabetes, and 65.9% of respondents knew that nutrition deficiency had impacts on health.⁴ While this is helpful, the study was not conducted in the United States, so it may not accurately represent the geriatric population in the United States, let alone the population of the residents in AMHA housing in Akron, Ohio. Limited studies are available in the United States representing the knowledge of geriatrics, instead there are studies representing health conditions in the population.

In addition to research findings, it is important to understand the population of the Wellness Wednesday participants by looking at the HRA data that is available. The HRA has 40 questions, while not all pertain to nutrition, most questions can be used such as income, number of people per household, health conditions, etc. Nutritionally, the HRA shows how often residents shop at the grocery store, how easy it is to gain access to the grocery store and a basic assessment of the types of foods residents eat on a daily basis.

One condition that is prevalent in the aging population is sarcopenia, which is a multifactorial problem that involves dietary factors, lifestyle, disease state, alcohol consumption and smoking.⁵ The pathophysiology of sarcopenia is very complex.⁵ As a person ages, natural deterioration of muscles will begin, but the speed of this process can be slowed down.⁵ The cause of sarcopenia is broken down into two categories, primary and secondary.⁵ Primary sarcopenia is strictly age related with no other known cause, secondary sarcopenia can be related to activity, disease, nutrition, or lifestyle.⁵ Teaching residents about sarcopenia may raise awareness to this

problem in the population. Two interventions to help reduce muscle loss includes a diet with adequate calories, protein and micronutrients, a second intervention is increased exercise that includes both strength training and aerobic exercise.⁵ Nutrition is needed to maintain weight and encourage muscle building. Exercise is necessary to increase resistance and use of muscle groups. With these interventions, insulin resistance can improve and cardiovascular health will improve which may decrease the chances of mortality from these diseases.

The highest cause of mortality in persons 45 - 64 are cancer, heart disease, unintentional injury, chronic lower respiratory disease, liver disease, diabetes, and cerebrovascular.⁶ In persons age 65 and older leading causes of death include heart disease, cancer, chronic lower respiratory disease, cerebrovascular, alzheimer's disease, influenza, pneumonia, and nephritis.⁶ Topics that should be focused on in Wellness Wednesday are related to the prevention of the diseases that cause the highest mortality such as heart disease and diabetes. Also, discussing sick day management for influenza or pneumonia can help participants to stay hydrated and nourished while ill. Finally, sarcopenia should be talked about with this population due to their high risk of developing sarcopenia. In addition, sarcopenia may exacerbate other diseases and contribute to a higher chance of mortality.

One problem with encouraging a nutrient dense diet during Wellness Wednesday is the access and availability of healthy foods in the neighborhoods the residents reside. Therefore, it is important to give residents the knowledge they need to live well, but also provide resources to help residents gain access to the healthy foods they need.

Nutrition Programs Available for Seniors

National goals for Healthy People 2020 in the adult population are to reduce prevalence of people suffering from arthritis, osteoporosis, diabetes and cardiovascular disease.⁷ Also an objective included is to focus on primary, secondary and tertiary prevention.⁷ To help with these objectives, national programs are available to older adults to help meet these objectives. In order to comply with these objectives and increase the health of residents, it is important to be aware of national nutrition programs available to older adults. In addition, the Academy of Nutrition and Dietetics position states that older adults should have access to food and nutrition programs that ensure the availability of safe, adequate food to promote optimal nutritional status.⁸

Through Wellness Wednesday students can help residents to become aware of programs available to them in the community through the lessons they give. Outlined below are five nationwide programs that are available to older adults based on certain eligibility criteria.

Nutrition Program for Older Adults	Type of Intervention	Agency	Eligibility	Available Services
Older Americans Nutrition Program www.aoa.acl.gov ⁹	Congregate and home delivered meals	DHHS AoA	age >60 or spouse of person with age >60.	Meals, transportation, shopping assistance, information and referrals.
SNAP fns.usda.gov ¹⁰	Income subsidy	USDA	income eligibility	Provide EBT card to make food purchases with allotted monies each month.
SNAP Nutrition Education fns.usda.gov ¹⁰	Nutrition education	USDA NIFA		Provide information about making healthy choices.
Senior Farmers Market Nutrition Program fns.usda.gov ¹⁰	Income subsidy	USDA	income eligibility	Provides individuals with coupons that can be exchanged for eligible foods at farmers markets, roadside stands, and community-supported agriculture programs.

Nutrition Program for Older Adults	Type of Intervention	Agency	Eligibility	Available Services
Medicare/ Medicaid cms.gov ¹¹	Third-party payment system	DHHS, CMS, SSA	income, diagnosis and/or age eligibility	May cover some nutrition services which varies depending on the setting of care and the deemed medical necessity.

Creating Lesson Plans

When creating a lesson plan, it is important to keep in mind how participants of Wellness Wednesday learn, what they need to learn, and be able to keep the lesson within the context of the monthly topic. The graduate assistant who coordinates the programs is responsible for determining monthly topics.

To start the lesson plan, determine what about the monthly topic is relevant to nutrition and also to the target audience. One topic that may be discussed is general health and wellness. When creating a lesson plan for this topic, you may decide that it would be good to talk about how to build a healthy plate and eating three meals per day. Once key facts that will be discussed during the lesson are decided, the lesson can be created. Older adults learn in different way than younger learners do, they often learn best through repetition and when it is clear how the lesson being taught provides value to their lives.^{1,3} For these reasons, a lecture may not be the best way to conduct lesson, instead discussion and other activities should be encouraged. In addition it should be communicated why it is important that the audience should want to learn about eating 3 meals per day. At the beginning of the lesson you may explain that eating at least three meals per day will help to run your metabolism, will keep you full, and prevent malnutrition. It may also be explained that building a healthy plate is important so high calorie, non-nutrient dense foods are avoided. By doing this, it may be easier to maintain a healthy weight. The

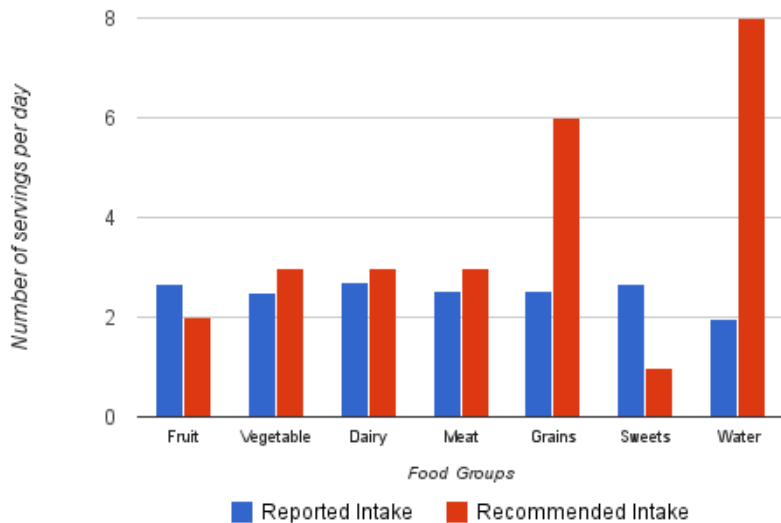
reasoning for the lesson should be stated or communicated in some way on the education material.

For the lesson, education material should be provided. Some things that can be used include a handout, brochure, poster, or other creative materials that will communicate the lesson, but also help the participants to remember the lesson later, or go back and review the material. One thing to keep in mind when creating materials for this population are changes that happen for age. For example, there are changes in eyesight and hearing. When creating education materials, it is important that text is at least 12 point font, and easy to read. Designs should also not be too overwhelming. For building a healthy plate, education material could include a poster of MyPlate. On the education material, it may be a good idea to add resources, such as books, shows, movies, websites or nutrition programs, where participants can later go and look up information regarding what was discussed during the lesson. By doing this, the instructor is encouraging further learning outside of the classroom. Also, if the older adult finds the subject of the lesson interesting, they may be more likely than younger learners to look up information about the subject after the lesson.¹

In addition to the lesson material, an activity should also be planned to present the material in a different way. One example of this is a cross word puzzle. A cross word puzzle can help to drive home the key points of the lesson. If teaching a lesson on building a healthy plate, a blank MyPlate and food models could be used for participants to work together to build examples of their own healthy plates.

Finally, when presenting the snack for the day, try to plan it around the lesson that was taught. If the topic was building a healthy plate, provide a snack that contains multiple food

Figure 1. Residents daily reported intake versus daily recommendations



groups such as a tray with vegetables, fruit and cheese. This will provide an example of eating three food groups in one snack.

By presenting information in three ways, through education material,

an activity and a snack, it will help the participants to understand the topic being discussed and go through the stages of learning: differentiation, dissonance, deconstruction and reconstruction.¹ To continue learning outside of the lesson, it is important to provide additional materials so participants who are interested in learning more have resources they can look into. Examples of previous lesson plans are available in the Wellness Wednesday Nutrition Binder.

Methods

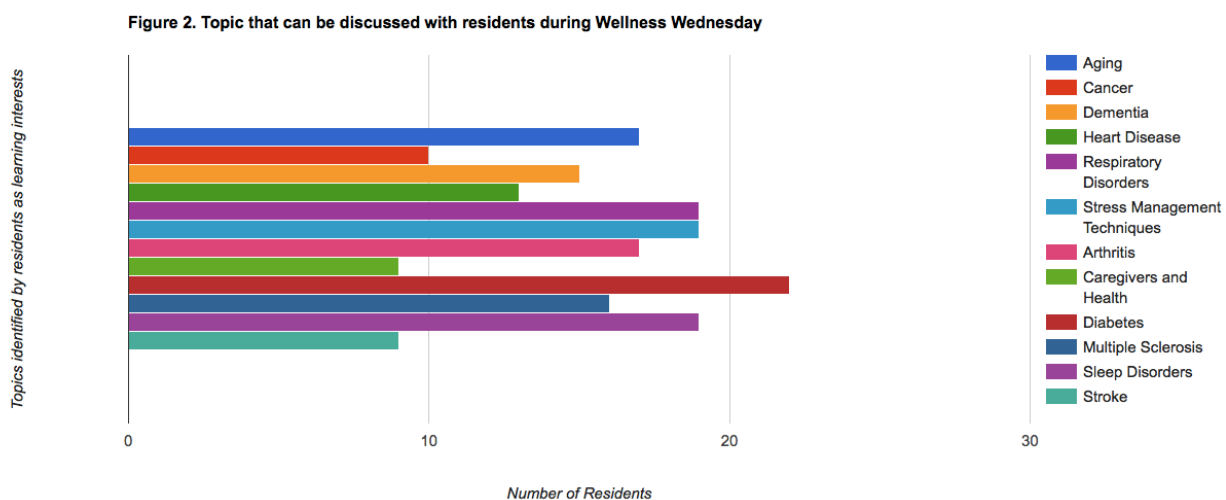
Forty residents of AMHA conducted an HRA in fall 2014 during the Wellness Wednesday event. AMHA is a housing authority in Akron who provides housing to those who are eligible.¹² There were eight males and 32 females, the average age was 62. Forty percent graduated from high school, 30% had some education past high school, 20% had less than a high school education, 5% graduated from a college program, 2.5% had a graduate degree, 2.5% did not respond. The HRA was extensive and included 43 questions. Income, access to a grocery store, presence of chronic health conditions, weight, height and a food frequency questionnaire were conducted.

Data from each of the HRA questionnaires was compiled into a Google docs spreadsheet. Using the spreadsheet, data was analyzed and put into graphs.

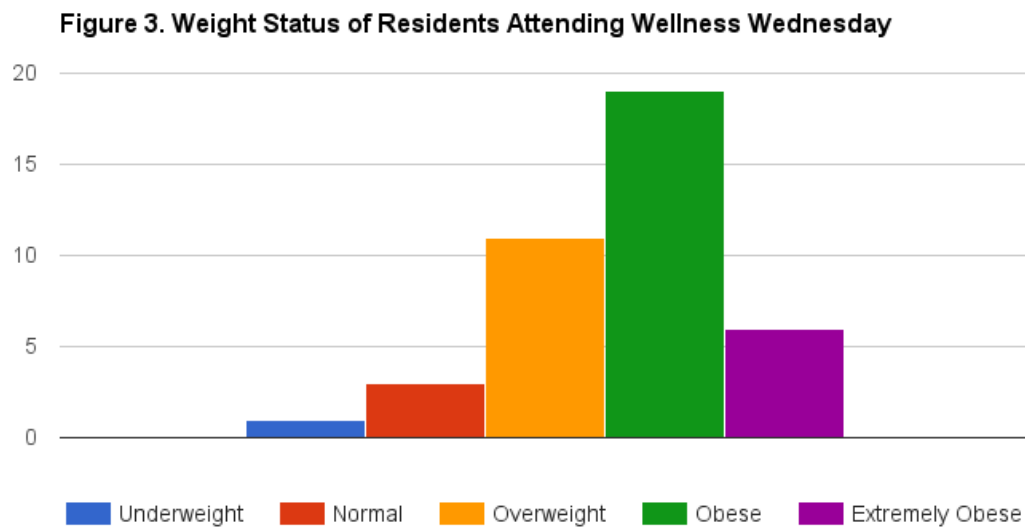
Results

Residents reported good intake compared to daily recommendations in fruits, vegetables, dairy and meat. Reported intake of grains and water was low compared to recommendations. In addition, intake of sweets was high compared to recommendations. During Wellness Wednesday events, healthy snacks including water and whole grains should be given with recipes. This way, residents get monthly education on how to include these food groups into their daily diet.

In addition to encouraging residents to consume a healthy distribution of macronutrients, it is important to talk about topics that residents of AMHA find important. Of all of the topics listed on the HRA, residents were most interested in learning about diabetes. This correlates with the number of residents who reported having diabetes. 57.5% of residents reported having diabetes, taking medication for diabetes or currently seeing a health care provider for diabetes. In addition, 7.5% of residents reported having diabetes in the past.

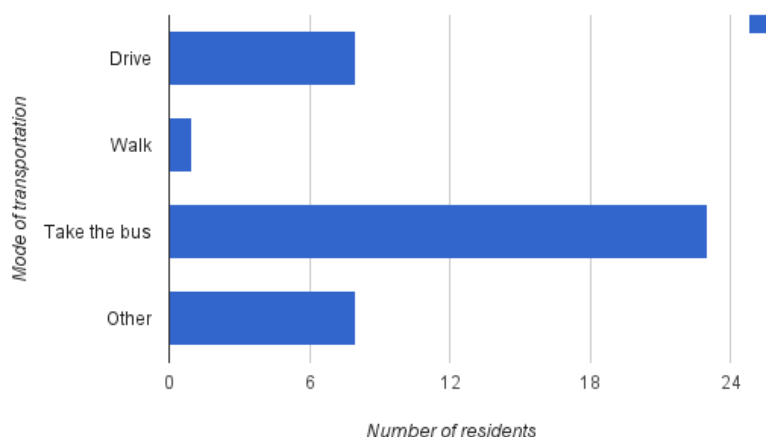


In correlation with a high prevalence of diabetes, many residents had a BMI above the recommended range. Eighteen residents were considered obese, eleven residents were overweight, six residents were extremely obese, three had a weight within normal ranges, and one resident was considered underweight. Overall, 87.5% of residents had a weight status above



normal. While it may not be indicated for the older adult to lose weight at a rapid pace, it may be indicated to encourage slow weight loss, or behavior changes. By focusing on a healthy balanced diet residents will be able to have better control over their blood sugars and possibly weight. In conjunction with exercise science, it will be possible to help residents improve their insulin resistance and decrease their Hgb A1C over time. It has been shown that with a decrease in weight status and an improvement in diet and exercise, individuals can reduce the need for medication or insulin use if they have type 2 diabetes. Wellness Wednesday is a good way to bring that education to the residents and help them to lead a healthier lifestyle and reduce

Figure 4. How residents of AMHA get to the grocery store



medical costs.

Sixty-five percent of residents reported income less than 10,000 dollars per year. The national poverty level for one person is \$11,770 for dollars per year for individuals.¹³ With such a tight budget, it is often difficult to afford

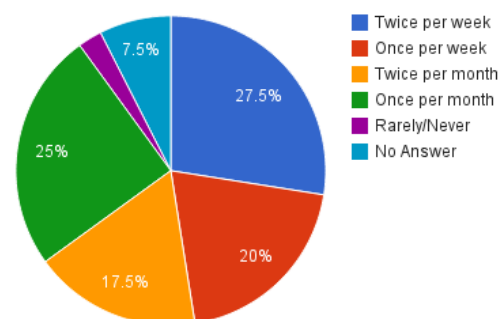
food, let alone healthy food. This is why it is important to help residents get access to local programs such as the Supplemental Nutrition Assistance Program, or Meals on Wheels.

Greater than half of the residents reported taking the bus to the grocery store when purchasing foods. When taking public transportation, the residents may also have trouble buying large amounts of food at one time. Instead, they have to only purchase what can be carried from the grocery store to the bus. 27.5% of residents reported going to the grocery store at least twice per week. But, 25% percent of resident reported going to the grocery store once per month. One of the future goals of Wellness Wednesday could determine where else residents are buying or getting their food other than the grocery store.

Discussion

It was found that many residents who

Figure 5. How often residents of AMHA go to the grocery store



attend Wellness Wednesday live below the federal poverty level, and may struggle to acquire enough food to eat every month although this cannot be determined from the study. In the future, it should be determined how else residents may be acquiring food other than going to the grocery store. Other means of acquiring food could include Mobile Meals, convenience stores, food bank, food pantries, eating out, or other community resources.

Through education that is appropriate for the elderly population, students should provide residents with the information they indicated wanting to learn about such as diabetes, and should use activities and discussions rather than lecture to discuss the monthly topics. When this style of teaching is implemented, a study should be done to see if residents are responding to this style of teaching and if they are benefiting from what is being taught. Also, students should focus on cost effective snacks that residents may be able to use, the recipe should also be provided with these snacks. Snacks provided should also include a source of water, vegetable, protein, and/or grains on a monthly basis. By providing these food groups, it will help to close the gaps residents reported in their diet through the food frequency questionnaire.

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